Serial Number: 09/964812 Filing Date: September 28, 2001

Title: Soldered Heat Sink Anchor and Method of Use

Assignee: Intel Corporation

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on July 15, 2003, and the references cited therewith.

Claims 1-9, 11-20, and 25-45 are now pending in this application.

Drawings

The drawings were objected to due to informalities. Amendment to the informal drawings is included in the communication.

§103 Rejection of the Claims

Claims 1-9, 11-20 and 25-45 were rejected under 35 USC § 103(a) as being unpatentable over Saneinejad et al. (U.S. 5,734,556) in view of Chung (U.S. 5,881,800), Garay (U.S. 5,115,375) and Hinshaw et al. (U.S. 6,195,880). Applicant respectfully traverses this rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.1).

Independent claims 1, 11, 17, 25, and 45 include a structure for one of supporting solder between the compressible section and the second face. In the case of claim 11, a limitation includes compression of the solder.

The Office Action admits that none of the references teach "said compressible section to support solder between said compressible section and said second face." (Office Action at page 3). The Office Action next makes an oblique reference to this limitation by the statement

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"[h]owever, the legs with such compressible ends are known in the art for positively connecting a component to a circuit board." (Ibid.). The Applicant considers this assertion insufficient to teach the limitation the Office admits is not present in the art. Further, the Office Action does not cite to a reference that teaches or suggests such a structure. All the elements of the independent claims are not found in the references, and the Examiner appears to take official notice of the missing element from an undisclosed source. Applicant respectfully objects to the taking of official notice, and pursuant to M.P.E.P. § 2144.03, the Applicant traverses the assertion of official notice and requests that the Examiner cite a reference that teaches the missing element. If the Examiner cannot cite a reference that teaches the missing element, applicant respectfully requests that the Examiner provide an affidavit that describes how the missing element is present in the prior art. Because the Office cannot cite a reference or provide an affidavit, the Applicant requests withdrawal of the rejections and reconsideration and allowance of independent claims 1, 11, 17, 25, and 45.

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With respect to Saneinejad et al. Saneinejad fails to teach limitations of the independent claims, as admitted to by the Office. Withdrawal of the rejections with respect to Saneinejad is respectfully requested.

With respect to Saneinejad in view of Chung, because Chung teaches his structure "without the use of solder" (Office Action at page 3), Chung offers nothing to repair the deficiencies left by Saneinejad. Withdrawal of the rejections with respect to Saneinejad in view of Chung is respectfully requested.

With respect to Saneinejad in view of Hinshaw et al., the Office Action admits that the barb is affixed to a heat sink, not to a printed circuit board second face. The Office Action states in rebuttal to the previous communication from Applicant, that "Hinshaw discloses the compressible section and it is inherent to support solder when the leg with the compressible section solder connected to the printed circuit board passing through the hole." (Office Action at page 7). This statement is in error because there is no compressible section, and the structure the Office asserts, can inherently support solder, is inserted into a heat sink, not into a printed circuit board. Withdrawal of the rejections with respect to Saneinejad in view of Hinshaw is respectfully requested.

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With respect to Garay, the Office Action fails to mention that Garay is radically different in structure function from the other cited references. Further, Garay does not teach or suggest a mechanism to secure a component to a printed circuit board, including a clamping apparatus to secure the component to the printed circuit board. Further, Garay does not teach the retention of solder between the compressible section and the second face of the printed circuit board. Withdrawal of the rejections with respect to Saneinejad in view of Hinshaw is respectfully requested.

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Because all the elements of the independent claims are neither taught, alone or together in the cited references, the teaching or suggestion to combine reference teachings has come from Applicant's disclosure. The combination of Saneinejad in view of any of Chung, Hinshaw, and Garay amounts to a mosaic, which the Office admits does not teach all the limitations of the independent claims. Withdrawal of the rejections is respectfully requested. Because none of the references teach the clamping limitation, among others and the limitation of retention of solder between the compressible section and the second face of a PCB, upon which a component is mounted on the first face, the reasonable expectation of success comes from Applicant's disclosure and not from the cited references. Withdrawal of the rejections is respectfully requested. Because all the claim elements are not taught within the cited references, withdrawal of the rejections is respectfully requested.

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AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, John Greaves at (801) 278-9171, or the below signed attorney to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

GEORGE ARRIGOTTI ET AL.

By their Representatives,

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Date Oct. 15 2003

Ann M. McCrackin

Reg. No. 42,858

KACIA LEE

Name

Signature